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For: AUTOMATED SYSTEM FOR ASSISTING THE ARCHITECTURAL
PROCESS

AMENDMENT AND RESPONSE

Confirmation No. 7222

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Commissioner for Patents
P.O. Box 1450
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Dear Sir:

In response to the Office Action, dated March 23, 2007, please consider the following
amendments and remarks.

Amendments begin on page 2 of this paper.

Remarks begin on page 9 of this paper.

AMENDMENT

Amendments to the Claims

1. (Previously presented) An open-network system for automating an architectural process of creating a plurality of aspects of a contract document comprising:
 - a graphic user interface for user-selected project-specific features;
 - at least one attribute information storage means, comprising a database from which a user-selected attribute is identified, each attribute having a unique identifier and data associated with it;
 - a filter for providing a graphical user interface with filtered data associated with a user-selected attribute;
 - a user database which stores the unique identifier of the user-selected attribute;
 - automated selection means for incorporating data associated with the user-selected attribute into the plurality of aspects of said contract document; and
 - a document generation means for creating the plurality of aspects of the contract document;

wherein the plurality of aspects of the contract document comprises

 - a) a schedule; and
 - b) a specification.

2. (Previously presented) An open-network system for automating an architectural process of creating a plurality of aspects of a contract document comprising:

data entry means for user-selected project-specific attributes; at least one attribute information storage means, comprising a database from which the user-selected attribute is identified, each attribute having a unique identifier and data associated with it; at least one remote attribute information storage means, comprising a database from which the user-selected attribute is identified, each attribute having a unique identifier and data associated with it; a filter for providing a graphical user interface with filtered data associated with a user-selected attribute; a user database which stores the unique identifier of the user-selected attribute; automated selection means for incorporating data associated with the user-selected attribute into said plurality of aspects of said contract document; and generation means for creating said plurality of aspects of the contract document; wherein the plurality of aspects of the contract document comprises

- a) a schedule; and
- b) a specification.

3. (Previously presented) The open-network system of claim 2, further comprising means for tracking a project.

4. (Previously presented) An open-network system for automating an architectural process of creating a plurality of aspects of a contract document comprising:

data entry means for user-selected project attributes;

at least one attribute information storage means, comprising a database from which the user-selected attribute is identified, each attribute having a unique identifier and data associated with it;

at least one remote attribute information storage means, comprising a database from which the user-selected attribute is identified, each attribute having a unique identifier and data associated with it;

a filter for providing a graphical user interface with filtered data associated with a user-selected attribute;

a user database which stores the unique identifier of the user-selected attribute;

automated selection means for incorporating data associated with the user-selected attribute into at least one digital file, the digital file comprising data associated with an aspect of said contract document;

generation means for creating the digital file; and

searching means for querying the user database;

wherein the plurality of aspects of the contract document comprises

a) a schedule; and

b) a specification.

5. (Previously presented) The open-network system of Claim 4, wherein the digital file created by the generation means comprises industry accepted tags.

6. (Currently amended) An open-network system for automating an architectural process of creating a plurality of aspects of a contract document comprising:
 - data entry means for user-selected project attributes, the data entry means comprising a graphical user interface having text entry and drop-down menu choices;
 - at least one attribute information storage means, comprising a database from which the user-selected attribute is identified, each attribute having a unique identifier and data associated with it;
 - a filter for providing the drop-down menu choices of the graphical user interface with filtered data associated with a user-selected attribute;
 - a user database which stores the unique identifier of the selected attribute;
 - automated selection means for incorporating data associated with the selected attribute into said plurality of aspects of said contract document wherein said plurality of aspects comprises architectural specification, architectural details, and architectural schedule or ~~architectural project status~~; and
 - generation means for creating the plurality of aspects of the contract document.

7. (Currently amended) A method for automating an architectural process of preparing ~~one or more~~ a plurality of aspects of a contract document comprising architectural drawings, a schedule aspect listing attributes of repetitive building parts to be incorporated into a building, and a specification aspect listing materials and processes selected to construct the building, the method comprising:

maintaining an association between each of a plurality of pieces of selectable design information for a building and a plurality of respective data entry ~~location~~ locations in ~~both~~ one or more of the schedule aspect and the specification aspect;

allowing a user to select an attribute for a building;

in response to a user selection of an attribute of a building, retrieving information associated with the selected attribute and graphically displaying a data entry form populated by the filtered associated information by referencing a unique identifier for each attribute and information associated with said respective unique identifier;

storing user selections of each attribute in a user database; and

generating ~~one or more of~~ said plurality of said aspects of said contract document in one or more of a plurality of formats by accessing the association of the ~~one or more~~ plurality of respective data entry locations ~~aspects~~ with stored user selected attributes in the user database.

8. (Previously presented) The method of claim 7, wherein the data associated with a user selected attribute is associated via the unique identifier with a vector equation, the generating of the document comprising generating a detail aspect based on at least said vector equation associated with said selected attribute.

9. (Previously presented) The method of claim 8, further comprising integrating the vector equations into a selected one of a group consisting of a plan view and an elevation view.

10. (Currently amended) The method of claim 7, further comprising:

- a) presenting a human interface for a diagram utility allowing a user to selectively preview and create one or more of said architectural drawings; and
- b) automatically creating said one or more architectural drawings using data from said respective data entry locations in said schedule aspect and said specification aspect.

11. (Previously presented) The method of claim 7, further comprising:

- in response to a user selected attribute accessing a manufacturer catalog page through a browser;
- allowing the user to select a catalog item from said manufacturer catalog page; and
- generating a schedule aspect of the architectural contract containing data associated with the selected catalog item.

12. (Currently amended) The method of claim 7 further comprising:

- allowing said user to create or edit ~~one or more of~~ said plurality of the aspects of said contract document using one or more formats from said plurality of formats.

13. (Previously presented) The method of claim 7 wherein said plurality for formats are selected from a group of formats consisting of:

- (a) a spreadsheet;
- (b) an Extensible Markup Language (XML);
- (c) a Computer aided design (CAD); and
- (d) word processing.

14. (Currently Amended) The method of claim 7 wherein allowing said user to edit said specification aspect of said contract document further comprises: ~~using a text editor~~

- a) maintaining a plurality of linkages between aspects of information in said specification aspect;
- b) using said plurality of linkages, automatically renumbering sections of said specification aspect, wherein said sections comprise paragraphs and subparagraphs, based on changes made to said specification aspect;
- c) allowing said user to use a text editor to edit a final draft of said specification aspect, wherein said final draft of said specification aspect is created automatically based on said user selections of said each attribute stored in said user database.

15. (Previously presented) The method of claim 7 wherein at least one piece of design information from said pieces of selectable design information is stored in a selected one of a group consisting of:

- (a) a schedule database;
- (b) a catalog database;
- (c) a drawing database; and
- (d) a specification database.

REMARKS

Applicants would like to thank the Examiner for the courtesies extended during the interview of April 18, 2007. During that interview, Applicants spoke with the Examiner regarding certain specifics of the invention, and unique meanings of certain terminology used in the claims, including “specification,” “schedule,” and “vector equation.” Additionally, during the interview, the Examiner identified additional art which, while not cited previously in this case, is considered potentially relevant to the subject matter of the pending claims. As set forth herein, Applicants believe that the pending claims recite limitations which are not taught or suggested in the prior art, and that, consequently, the pending claims should be allowed in their current form. Accordingly, reconsideration and allowance of the pending claims is earnestly solicited.

As an initial matter, Applicants would like to address certain terminology which appears in the present claims, and which is used in a manner that is well known to those in the field of architectural design. First, in the context of this invention, the aspects of a “Schedule,” and a “Specification,” should be understood to have particular meanings as set forth in lines 10 – 18 of page 2 of the application as originally filed. That section explains the relationship of a “Schedule” and a “Specification” to a “Contract Document,” and also describes what a “Specification” and a “Schedule” actually are. Specifically, that passage states that:

Architects and engineers are hired to design buildings and other structures. In order to get these structures, built, the architects and engineers produce what is called a contract document, which comprises several complimentary aspects, including the agreement between the Owner and the Contractor, the drawings, which include plans, elevations, sections, and Details; **Schedules, which list attributes of repetitive building parts such as doors, windows, hardware, and finishes; and the Specifications, which are the written, detailed descriptions of the materials and processes that make up the building.** A Schedule, for example, would indicate to a contractor what type of finish a door might have, and a Specification would indicate how that finish is applied.

(emphasis added). Similarly, a “vector equation” as used in the application has the meaning indicated by line 21 of page 8 of the application as filed: a representation of the geometry of the parameterized parts of a drawing. This is different from an equation representing the forces

which act on a body, a meaning which might be given to the term “vector equation” in contexts other than the art of the present application.

Having established the meanings of specialized terms used in the claims, Applicants now turn to the reasons the pending claims should be allowed.

REASONS THE PENDING CLAIMS SHOULD BE ALLOWED

Each of the independent system claims, claims 1, 2, 4, and 6, is directed to “[a]n open-network system for automating an architectural process of creating a *plurality* of aspects of a contract document” (emphasis added). Further, each of claims 1, 2 and 4 recites

the plurality of aspects of the contract document comprises

- a) a schedule; and
- b) a specification.

Similarly, claim 6 recites that: “said plurality of aspects comprises architectural specification, architectural details, and architectural schedule.” Consequently, each of claims 1-6 is novel and unobvious over references which do not teach or suggest automating the architectural process of creating a *plurality* of aspects of a contract document, where the plurality of aspects comprises a schedule and a specification.

Similarly, as is recited in claim 7, the pending method claims are directed to:

A method for automating an architectural process of preparing a *plurality of* aspects of a contract document comprising architectural drawings, *a schedule aspect listing attributes of repetitive building parts to be incorporated into a building, and a specification aspect listing materials and processes selected to construct the building*.

(emphasis added). Claim 7 also explicitly recites the step of “generating said *plurality of* said aspects of said contract document” (emphasis added). Consequently, like claims 1-6, claims 7 and 8-15 which depend therefrom, are novel and unobvious over references which do not teach or suggest automating the architectural process of preparing a plurality of aspects of a contract document comprising a schedule aspect and a specification aspect.

As set forth below, the prior art cited in the subject office action, as well as the prior art discussed in the interview does not teach or suggest automating the creation of a plurality of aspects of a contract document, when those aspects include a schedule and a specification as those terms are explicitly defined on page 2 of Applicants' specification. Therefore, the schedule and specification aspects recited in each independent claim should provide a primary reason for allowance.

Turning now to the prior art, U.S. 6,446,053 ("Elliot"), which was cited as the basis of all art based rejections in the subject office action, does not teach or suggest automating the creation of the schedule and specification aspects of a contract document, because Elliot is focused on an entirely different facet of the architectural process. Particularly, Elliot is a "tool that enables owners to accomplish the tasks usually performed by a general contractor." (Elliot, col. 2, ll. 18-20). However, as is set forth in lines 4-15 of page 1 of Applicants' disclosure, the "contract document", when that term is given the special meaning set forth in the application, and the specifications included therein, is created by architects and engineers. A tool which enables owners to perform tasks of a general contractor (e.g., preparing cost estimates, and hiring and managing subcontractors, as listed in lines 19-36 of column 1 of Elliot) does not teach or suggest automating the creation of both the specification and schedule aspects of a contract document because creation of the "contract document" is completed before a general contractor becomes involved in the architectural process.

Regarding the other references mentioned in the interview, U.S. patents 6,023,702 ("Leisten"), 4,875,162 ("Ferriter"), 6,944,622 ("Mitchell"), 6,405,364 ("Bowman-Amuah"), 6,282,514 ("Kumashiro"), and reissue patent RE38,633 ("Srinivasan"), while devoted to project management and building techniques in a software development architecture, do not teach or suggest the automated creation of the specification and schedule aspects of an architectural contract document. Thus, because each pending independent claim recites the creation of a plurality of aspects of a contract document, including a specification and schedule aspect, and because of the special definitions set forth for those aspects in Applicants' specification, the pending claims are novel and nonobvious over the references mentioned in the interview as well.

In a similar vein, claim 8 which recites associating data with vector equations, and generating a detail aspect based on that vector equation, and claim 9, which depends on claim 8, and further recites integrating the vector equations into a selected one of a plan view and an elevation view are both novel and unobvious over the prior art based on the special definition given to the term “vector equation” in light of the Applicants’ application. Particularly, the subject office action rejected claims 8 and 9 based on defining a “vector equation” broadly to include a representation of the forces which act on a body, rather than the specialized understanding which one of skill in the art would have as set forth in Applicants’ application. When given the proper definition, the limitation of associating data with vector equations, and generating a detail aspect based on that vector equation is neither taught nor suggested in the prior art, because drawings can be based on sources other than vector equations (e.g., a photograph, as taught in lines 40-42 of col. 5 of Elliot). Similarly, creating architectural drawings based on vector equations associated with data as recited in claim 8 is not rendered obvious by the computer aided design software disclosed in Applicants’ application, because there is no teaching or suggestion that that software includes the capability to create detail drawings based on vector equations associated with data. Consequently, the use of vector equations in claims 8 and 9 provides an additional reason why those claims are patentable.

In addition to the automatic creation of the “schedule” and “specification” aspects of the contract document, dependent method claims 10 and 14 are amended in response to the subject office action such that they recite limitations which are not taught or suggested in the prior art. Claim 10 has been amended to recite the step of “automatically creating said one or more architectural drawings using data from said respective data entry locations in said schedule aspect and said specification aspect.” That step is not taught or suggested in the prior art because the prior art does not teach or suggest automatically creating one or more architectural drawings based on information from data entry locations in other documents. Similarly, the prior art does not teach or suggest any type of data entry locations in specification and schedule aspects of an architectural contract document, and therefore does not teach or suggest the particular use for data in those data entry fields (automatically creating one or more architectural drawings) which is recited in claim 10. Further, claim 14 has been amended to recite that allowing a user to edit a specification aspect of a contract document comprises:

- a) maintaining a plurality of linkages between aspects of information in said specification aspect;
- b) using said plurality of linkages, automatically renumbering sections of said specification aspect, wherein said sections comprise paragraphs and subparagraphs, based on changes made to said specification aspect;
- c) allowing said user to use a text editor to edit a final draft of said specification aspect, wherein said final draft of said specification aspect is created automatically based on said user selections of said each attribute stored in said user database.

Those limitations are not taught or suggested in the prior art because the prior art does not teach or suggest maintaining linkages between aspects of information in a specification aspect of a contract document, and therefore does not teach or suggest the particular usage for the plurality of linkages (automatically renumbering sections of a specification aspect) which is recited in claim 14. Similarly, the prior art does not teach or suggest that a specification, as that term is used in the application, is created automatically based on user selections of attributes which are stored in a user database. Consequently, the prior art does not teach or suggest that a final draft specification which is automatically created based on such user selections stored in a user database can be edited using a text editor.

CONCLUSION

In light of the amendments and remarks made herein, it is respectfully submitted that the claims currently pending in the present application are in form for allowance. Accordingly, reconsideration of those claims, as amended herein, is earnestly solicited. Applicants encourage the Examiner to contact their representative, David Franklin at (513) 651-6856 or dfranklin@fbtlaw.com.

The claims after amendment remain at 15 total with 5 independent. Since the two extra independent claims have been paid for in a previous action, no claim fees are due. Also, since the amendment is being filed before the three month response period, no extensions are needed. However, if necessary, the Commissioner for Patents is hereby authorized to charge any deficiency or credit any overpayment of fees to Frost Brown Todd LLC Deposit Account No. 06-2226.

Respectfully submitted,

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